

REMARKS

Claims 1 and 5 have been amended and claim 20 has been added.

Regarding the rejection of claims 1-6 under 35 U.S.C. §102(b) or under 35 U.S.C. §103(a) over Kerner et al., U.S. Patent No. 6,028,770, Applicants have amended claim 1, from which claims 2-6 also depend.

Kerner discloses an assembly having a hybrid or other circuit components 41 that are mounted on a first printed circuit board 4 having contact surfaces connected by bonding wires 82 to second printed circuit board 5. Second printed circuit board 5 discloses a flexible print circuit board having conductors 81 which are connected at one end to bonding wires 82 and at another end to pin 61 of plug part 6. The assembly includes an upper part 1 and lower part 2 which both form a housing that may be made of metal.

Applicants' amended claim 1 calls for a heat sink assembly having an interior cavity, at least one hybrid circuit housed in the cavity, and a bottom having a plurality of interconnected pins molded therein, the pins being wire bond compatible at one end for connection to the at least one hybrid circuit.

Kerner does not teach or make obvious pins which may be connected by bonding wire to a hybrid circuit. Kerner teaches using connection pins 61 that require second flexible printed circuit board 5 be used to connect a circuit of first printed circuit board 4 to pins 61. The additional structure, connections, and complexity required by Kerner over Applicants' invention may increase costs, space, and weight requirements and may cause additional possible failure points and modes. These are some of the problems that the present invention according to claim 1 seeks to overcome (paragraph 4).

Kerner teaches adding an additional heat sink, cold plate 3, which is separate from the housing. Applicants' invention according to claim 1 provides that the bottom to which the interconnect pins are molded provides heat sink capabilities. Thus, Kerner teaches redundancy, design complexity, and production costs which Applicants' invention according to claim 1 specifically sought to overcome.

Regarding the rejection of claim 7 under 35 U.S.C. §103(a) over Kerner et al. in view of Tugcu, U.S. Patent No. 4,717,990, neither Kerner nor Tugcu taken individually or in combination disclose pins which are wire bond compatible at one end for connection to

the at least one hybrid circuit or partitions separating the at least one hybrid circuit from another hybrid circuit, as called for by Applicants' claim 7, which depends from claim 1.

Tugcu discloses partitions 23-26 which extend through apertures 27-30 in a single circuit board 17. Therefore, Tugcu discloses partitions that separate individual circuit components, but not one hybrid circuit from another hybrid circuit as called for by Applicants' claim 7. Hybrid circuits 16-24 shown in Applicants' figure 1 are separate, multiple substrates (paragraph 6), the substrates possibly differing from each other (paragraph 15), and the circuits must be interconnected by pins 30 (paragraph 8). Therefore, hybrid circuits 16-24 and partitions 25 do not comprise a single printed circuit board having apertures with partitions there through as taught by Tugcu. Additionally, Tugcu does not teach using connection pins which may be wire bonded.

In regard to Applicants' newly added claim 20, which also depends from claim 1, the housing assembly advantageously utilizes the vertical space relative to the printed circuit board or other external device to which the invention is connected, thereby minimizing the coupling surface area that the invention requires, often an important factor in packaging design (paragraphs 4 and 7).

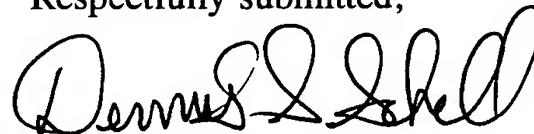
Applicants respectfully submit that claims 1 through 7 and 20, as amended, are not disclosed by nor obvious over Kerner in view of Tugcu and are therefore in condition for allowance.

In view of the foregoing, Applicants submit that the application, as amended, is in condition for allowance, and such favorable action is respectfully requested.

In the event any extension of time or payment of fee is required, Applicants hereby conditionally petition therefore and authorize any charges to be made to Deposit Account No. 02-0390, BAKER & DANIELS.

Should the Examiner have any questions or suggestions which would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at (317) 237-1117.

Respectfully submitted,



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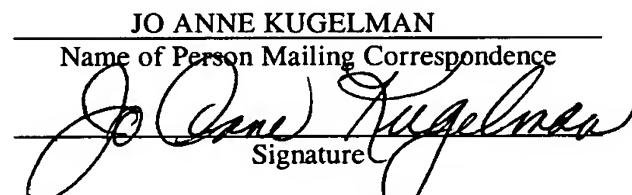
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Signature
August 12, 2003
Date